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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Duane Heaton
Deputy Project Officer
Emergency Support Section, 5 HS-11
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

October 23, 1989

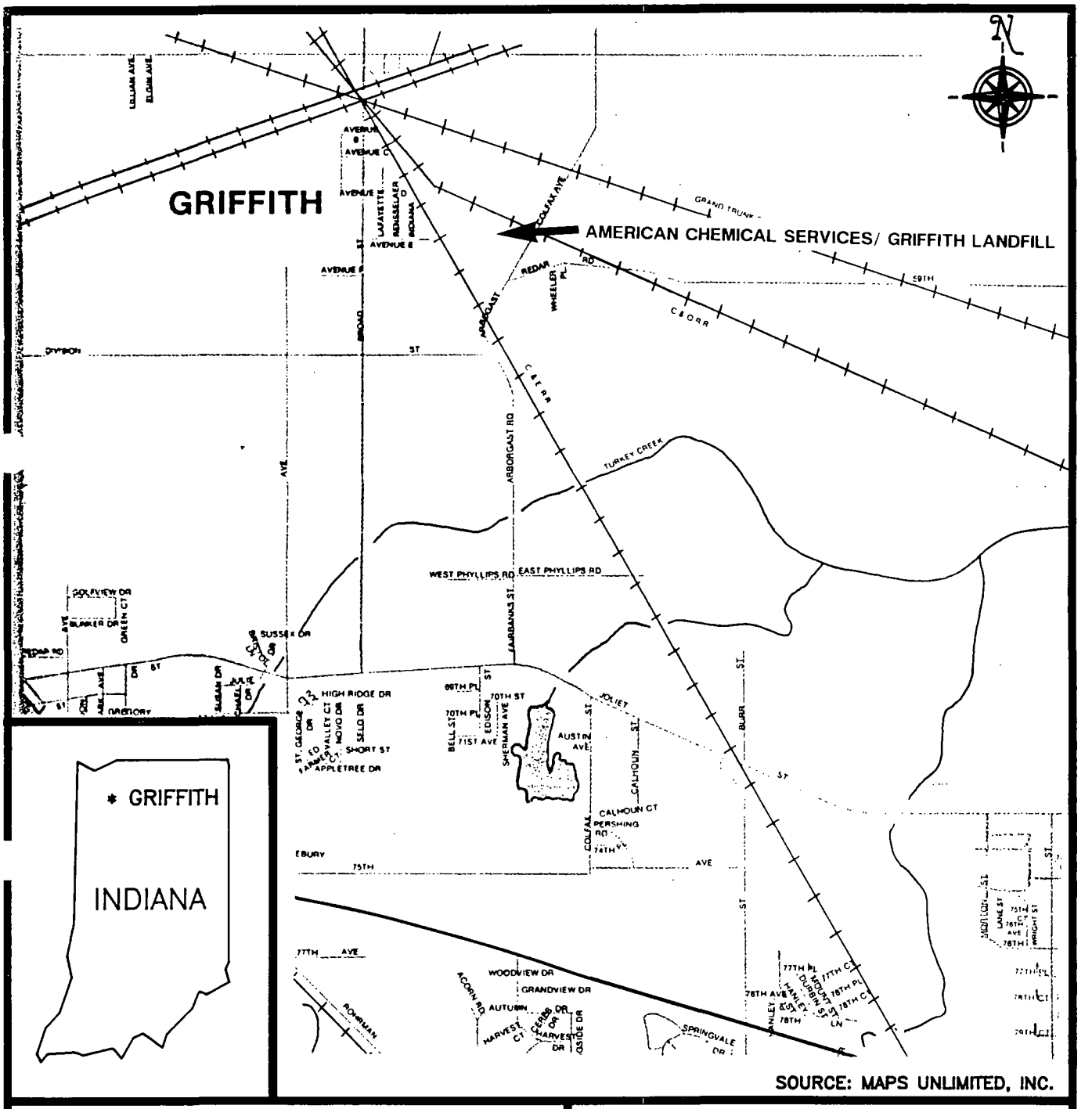
TAT-05-G2-01320

Re: American Chemical Services Griffith Landfill
Griffith, Indiana
TDD # 5-8905-25

Dear Mr. Heaton:

On June 1, 1989 the U.S. Environmental Protection Agency (U.S. EPA) tasked the Technical Assistance Team (TAT) to perform sampling at the Griffith Landfill (GL) in Griffith, Indiana (Figure 1). This sampling was conducted to determine if the adjacent property owned by American Chemical Services (ACS) and Kapica Drum Inc. was contaminating the landfill. This report includes a brief history of the Griffith Landfill, American Chemical Services, Kapica Drum Inc., prior on-site sampling activities and results, and TAT activities and analytical results from the June 1, 1989 sampling action.

GL is an active sanitary landfill located south of the ACS facility and is bordered to the east by Kapica Drum, Inc. (now owned by Pazmey Corporation). GL has been operating since the 1950's mainly as a municipal disposal facility. Prior to the establishment of the Resource Conservation and Recovery Act (RCRA), GL received hazardous wastes from several sources. ACS has reportedly disposed of hazardous waste from reclamation, incineration, and other processes. Reports also indicate that drums and drum-cleaning residues were disposed of in the landfill. It is also suspected that GL accepted approximately 10 gallons per week of retained samples containing hazardous substances, and 2,500 drums of residue from drum recycling facilities. In 1980, a 31-acre portion of the property owned by ACS was sold to the City of Griffith. The City is developing this property as an expansion of their municipal landfill (Figure 2).



SOURCE: MAPS UNLIMITED, INC.

FIGURE 1

SITE LOCATION MAP

AMERICAN CHEMICAL SERVICES/ GRIFFITH LANDFILL

GRIFFITH, INDIANA

SCALE 1 INCH = 1/2 MILE

WESTON

MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
R. YOUNG	7-17-89	2239
APPROVED BY	DATE	TDD #
C. CARON	7-17-89	5-8905-25

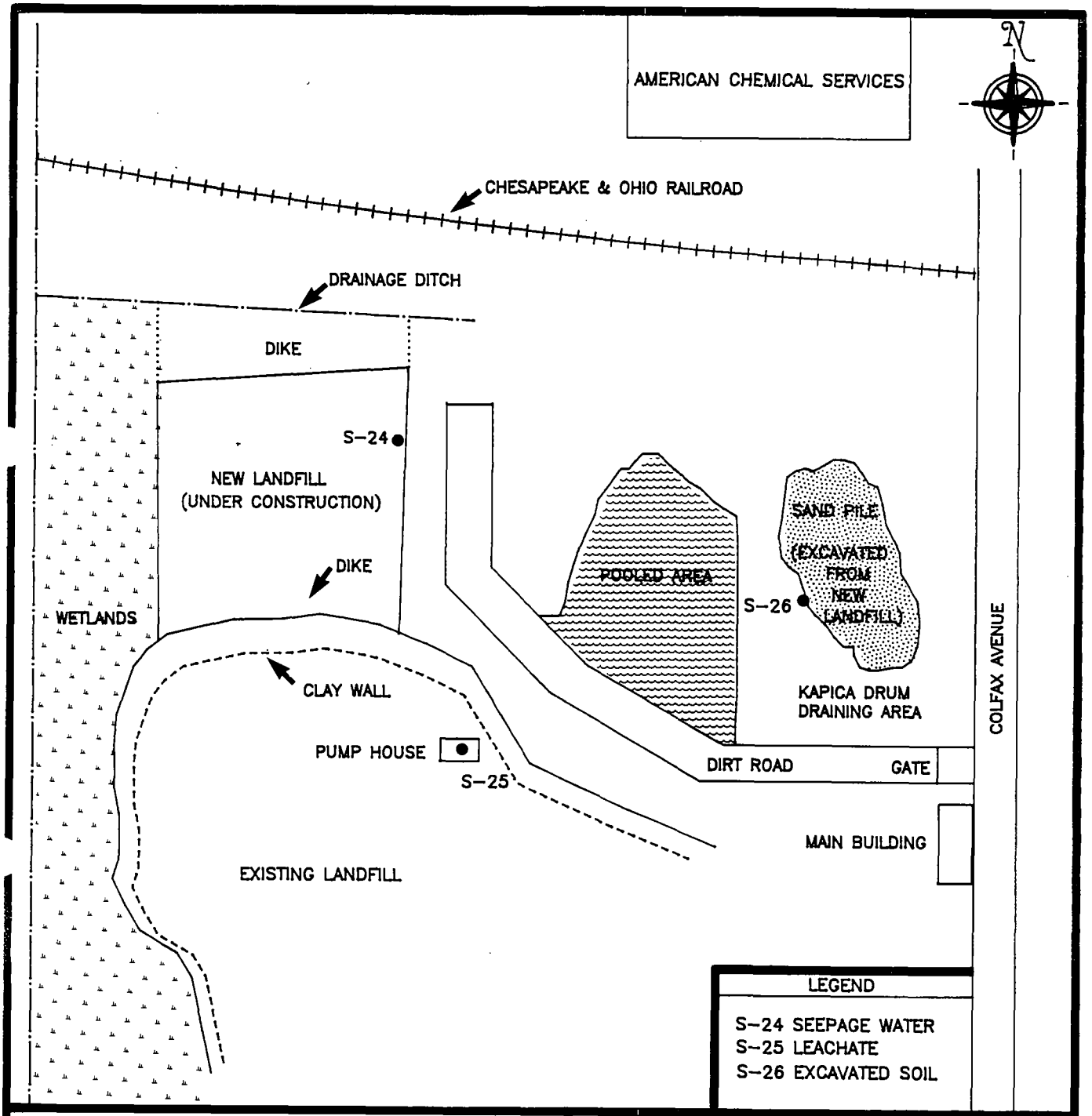


FIGURE 2
SITE MAP
AMERICAN CHEMICAL SERVICES/
GRIFFITH LANDFILL
GRIFFITH, INDIANA

NOT TO SCALE

WESTON
MANAGERS DESIGNERS/CONSULTANTS

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The ACS facility is a solvent reclamation and chemical manufacturing facility located northwest of GL. ACS began operations in May 1955 solely as a solvent recovery facility, and later began limited chemical manufacturing. From October 1971 to April 1973, ACS operated a swine fat reprocessing operation at the site. In May 1972, a production line was opened for "amotone", a gasoline additive. In early 1974, ACS began manufacturing a plasticizer called "epoxol". Both materials are currently being produced, but the main operation remains as solvent recovery.

From 1955 to 1975, ACS operated a small landfill on property directly south of their plant (Figure 2). Throughout its operation the landfill received a variety of waste generated at the ACS plant. General refuse and an estimated 20,000 to 30,000 drums of unreclaimed waste were deposited in the fill prior to its closure. From 1968 to 1970 ACS operated an incinerator, and waste produced from this process was deposited in the fill. ACS reported that wastes generated off site were accepted for incineration. The incinerator burned approximately 2 million gallons of waste per year until its closure in 1970.

ACS reports that leachate problems have been associated with the landfill since the 1960s, but have since steadily decreased. In 1972, ACS discontinued use of its landfill and the site was capped with a two to three foot layer of soil.

Several hazardous wastes generated at the ACS facility from reclamation, incineration and other processes may have been disposed of at GL. These wastes include 1,1,1-trichloroethane, trichloroethylene, methylene chloride, toluene, benzene, 2,4-dichlorophenoxyacetic acid (2,4-D), 2-(2,4,5-trichlorophenoxy) propanoic acid (2,4,5-TP), paint residues, resins, pigments, plasticizer, lead pigments, chromium, cyanide, and acetone. Waste generated from other processes include benzene, toluene, polybutene, diatomaceous, acetic acid, animal oils, formic acids, sodium hydroxide, maleic anhydride, furfuryl alcohol, lacquer, methanol, hexane, and wastewater.

Kapica Drum, Inc. has been operating as a drum reconditioner since 1951. This facility generated residues and rinse water from cleaning drums that contained hazardous waste. Some of these wastes have been reportedly disposed of at GL.

Past site investigations have been conducted on the ACS facility, and the nearby adjacent properties by Indiana State Board of Health, Division of Stream Pollution Control (ISBH-DSPC), U.S. EPA Regional V Surveillance and Analysis Division and Investigative Branch, and Field Investigation Team (FIT). A site assessment (SA) and Spill Prevention Countermeasure and Control (SPCC) were also previously conducted by the TAT.

From April 1972 to September 1973, the ISBH-DSPC conducted regular inspections of the facility. When ACS began epoxol manufacturing in early 1974, the facility was connected to the Griffith City sewer system. Monthly effluent monitoring was begun by the Griffith Department of Public Works at this time.

On May 8 and 9, 1980, personnel from the U.S. EPA Region V Surveillance and Analysis Division of the Environmental Emergency and Investigation Branch visited the ACS landfill to investigate reported leachate problems associated with the site. A pool of leachate was observed, and a sample collected at the north side of drum disposal area. Subsurface soil samples were collected near the pool, approximately 10 feet north of the drum fill at a depth of 5 feet, and at a depth of 6.5 feet from an area approximately 36 feet east of the drum disposal area. A water sample was collected from a drainage ditch feeding a culvert under the C&E rail line, on the southwest corner of the landfill property.

Analytical results indicated that the sample collected north of the fill area contained isomers of methylnaphthalenes (32000 parts per billion [ppb]), dimethylnapthanes (22000 ppb), diphenylether (3800 ppb), and 12000 ppb of a polychlorinated compound. This sample and the sample collected 36 feet east of the drum disposal area showed elevated concentrations of phenol, isophorone, naphthalene, phenanthrene, anthracene, bis(2-chloroethyl) ether, and phthalates, ranging from 6.1 ppb (fluorene) to 110,000 ppb [bis(2-ethlhexyl) phthalate]. The results from the sample collected 10 feet north of the disposal area showed a broad spectrum of organic polar compounds such as phenols, ketones, esters, alcohols, and acids. These concentrations ranged from 4100 ppm (2-ethylhexonic acid) to 58000 ppm ethylphenols. The water sample results indicated the presence of several phenols, ketones, and alcohol derivatives.

In 1981, several private water supply wells near the facility were sampled by the ISBH and analyzed for a variety of inorganic parameters. The samples collected did not contain elevated concentrations of the compounds found at the ACS facility or other nearby potential contaminant sources.

In July of 1982, the U.S. EPA Field Investigation Team (FIT) established four monitoring wells on or near the ACS landfill in order to investigate potential ground water contamination from the site. The FIT study showed the flow direction to be towards the northwest. Three of the wells were found to contain a variety of organic substances, primarily volatile organic compounds (VOCs).

On November 29, 1984, TAT conducted a SA of the ACS facility and the adjacent landfill. This SA included an overview of the area, investigations of past leaching incidents, and an investigation of the drainage ditches. No signs of leaching were observed. However, one of the drainage ditches that originated in the area between the ACS fill and the current Griffith operations contained water which was odorous, and gas was detected emerging from the sediments.

On December 12, 1984, TAT conducted an SPCC inspection of the ACS facility, investigating various tank farms on site. The TAT found the facility to be well maintained.

It has been reported that the leachate from GL has been allowed to flow to the Hammond wastewater treatment facility. Reports also indicate that GL has been pumping off excess water from the new undeveloped landfill into an adjacent drainage swale which parallels the fill area. In addition GL has been selling excavated soil from the new landfill which may be contaminated. Due to the latter activities and the concern of the residents, the City of Griffith requested the U.S. EPA to sample the GL.

On June 1, 1989 TAT members Louise Raimondo and Robert Young met with U.S. EPA Remedial Project Managers (RPMs) Bob Swale and Kerry Street, and City of Griffith representative Merill Colby. TAT, RPM, and Mr. Colby conducted a site tour, and collected two water samples and one soil sample. Sample #1 was collected from the new landfill, sample #2 near the pump house, and sample #3 from excavated soil (Figure 2). Air monitoring with a photoionization detector, radiation meter, and combustible gas indicator revealed

background levels at the three locations. In addition, a background soil sample was collected at Prairie Park, 2.3 miles west of the site.

The samples were analyzed for acid and base neutrals, pesticides, polychlorinated biphenyls (PCBs) and VOCs by Grace Analytical Lab under TAT Analytical Services TDD# 5-8905-L10.

Numerous VOCs were detected in the water and soil samples. However, the majority of the compounds were also detected in the field blanks, rendering the VOC data unusable.

Acid and base neutral analysis indicated the presence of di-n-butylphthalate (20.4 ppb) in sample #1, and 4-methylphenol (54.3 ppb), benzoic acid (104 ppb), naphthalene (33.8 ppb), dimethylphthalate (1.28 ppb), diethylphthalate (6.93 ppb), di-n-butylphthalate (2.15 ppb), and butylbenzylphthalate (22.3 ppb) in sample #2. No compounds were detected in the soil sample.

Neither pesticides nor PCBs were detected above method detection limits in the water and soil samples.

Following review by TAT sample management, analytical data from this sampling action was sent to RPMs Swale and Street.

Should you have any questions or require additional information please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.

Chuck Caron

for Robert A. Young
Environmental Scientist

William R Doyle

William R. Doyle
Technical Assistance Team
Leader, Region V

RAY:dn
cc: B. Swale, RPM

ATTACHMENT A

SITE PHOTOGRAPHS

PHOTO: 1
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of pooled area in foreground, background is the excavated soil from the new landfill.
DATE/TIME: 6-1-89/1048
PHOTOGRAPHER: L. Raimondo
FILM: 35mm/200 ASA

PHOTO: 2
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of wetland area where the landfill leachate is being pumped into a sewer pipeline.
DATE/TIME: 6-1-89/1040
PHOTOGRAPHER: L. Raimondo
FILM: 35 mm/200 SA

PHOTO: 3
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of the pumphouse located in the existing landfill which is used to pump off the leachate.
DATE/TIME: 6-1-89/1046
PHOTOGRAPHER: L. Raimondo
FILM: 35 mm/200 ASA

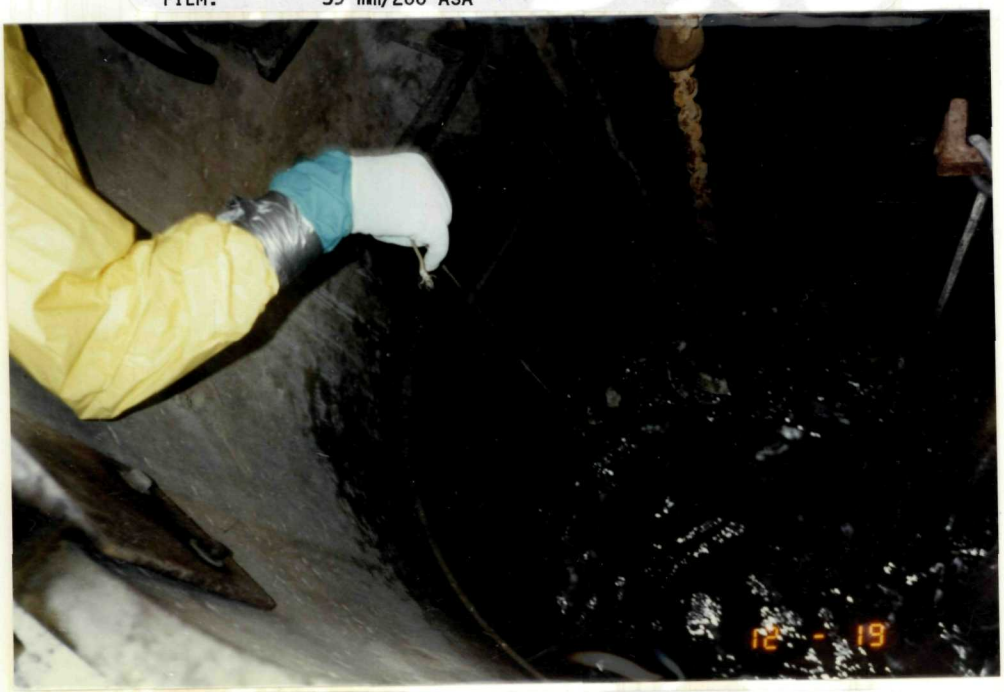

PHOTO: 4
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of TAT collecting a sample from the pumphouse.
DATE/TIME: 6-1-89/1219
PHOTOGRAPHER: L. Raimondo
FILM: 35 mm/200 ASA

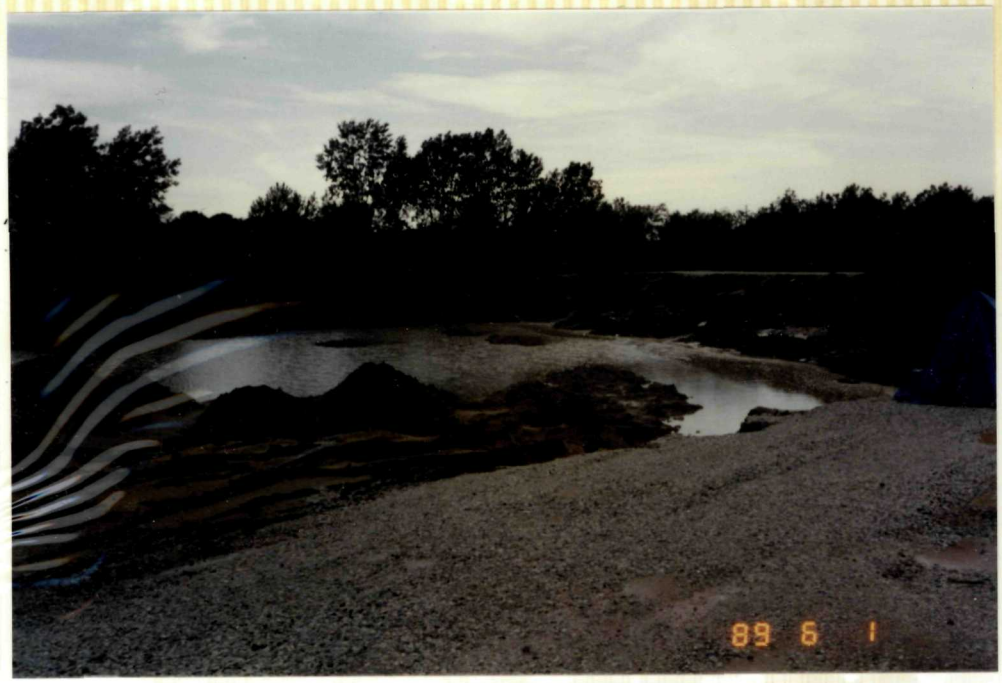

PHOTO: 5
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of the newlandfill. Note water in the fill which was being pumped off into the drainage ditch to the left.
DATE/TIME: 6-1-89/1041
PHOTOGRAPHER: L. Raimondo
FILM:35 mm/100 ASA

PHOTO: 6
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of TAT sampling ground water seeping into the new landfill.
DATE/TIME: 6-1-89/1149
PHOTOGRAPHER: L. Raimondo
FILM:35 mm/100 ASA

PHOTO: 7
SITE NAME: American Chemical Services/ Griffith Landfill
DESCRIPTION: View of excavated soil from the new landfill.
DATE/TIME: 6-1-89/1247
PHOTOGRAPHER: L. Raimondo
FILM:35 mm/100 ASA